REMARKS

Favorable reconsideration of this application in view of the remarks to follow and allowance of the claims of the present application are respectfully requested.

Applicants have amended Claims 5 and 20 to conform them to the claim format of the present U.S. Patent law. In addition, Applicants have amended Claim 23 to be dependent upon Claim 20 for antecedent basis. Claim 30 has been added to the application. Support is found on page 13, lines 4-9 of the instant specification. Since no new matter is introduced into the originally filed application, entry thereof is respectfully requested.

In the Official Action, Claims 1-17, 25, 26 and 28 stand rejected under 35 U.S.C. 103(a) as allegedly unpatentable over US Patent No. 4,839,192 to Sagi et al. ("Sagi"). Specifically, the Official Action asserts that the present claims appear to differ from Sagi in the recitation of the order of reaction. In this regard, the Official Action avers that Sagi starts with hydrogenated fat sources and then interesterifies the hydrogenated fat (see example 4 at column 4), which is opposite to the presently claimed process where interesterified fat is subjected to hydrogenation. However, the Official Action contends that it is known in the art that hydrogenation of fats generally increases the melting point of a fat, and one would expect to melt fat prior to interesterification. According to the Official Action, it would be obvious to one skilled in the art to alter the order of the chemical reaction in Sagi in order to interesterify the fat to a lower melting temperature.

In response, applicants submit that Claims 1-17, 25, 26 and 28 are non-obvious over Sagi for the reasons as set forth below.

First, applicants submit that a person skilled in the art would not have any motivation or reason to apply Sagi in the first instance because Sagi teaches away from the

present invention. Specifically, Sagi teaches that the hard butter composition generated from the process of production as cited by the Examiner is a tempering fat (see column 2, lines 34 – 41; and column 6, the experiment section, lines 19-25 of Sagi et al). In contrast, the fat composition generated from the presently claimed process is a non-tempering fat (see page 8, line 33 to page 9, line 4) of the instant specification. As one skilled in the art is well aware, a tempering fat is quite different from a non-tempering fat. In order to be used, a tempering fat needs to be subjected to a treatment step to induce crystal nucleation of the fat. A non-tempering fat does not require this treatment step for use thereof. Thus, the product of Sagi et al. is quiet different from the product produced by the present process. Therefore, one of ordinary skill in the art would not look at the process of Sagi, where the product is a tempering fat to make a non-tempering fat. Moreover, since the products produced by the process of Sagi are different from the product produced by the present invention, the process of Sagi cannot teach, disclose or suggest the present process.

Further, in response to the Examiner's allegation that a person skilled in the art would alter the order of the chemical reaction in Sagi in order to arrive at the present invention, applicants respectively submit that, as discussed above, Sagi intends to make a tempering fat whereas the present invention intends to make non-tempering fat. Therefore, the modification of the order of the chemical reaction in Sagi would render Sagi unsatisfactory for its intended purpose and changes its principle of operation. "Proposed modifications cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference". See MPEP 2143.01.

In summary, a person skilled in the art would not have any motivation or reason to apply Sagi, as well as to alter the order of the chemical reaction in Sagi in order to arrive at the present invention.

Second, even assuming *pro arguendo* that a person skilled in the art would apply Sagi, which is clearly not the case as discussed above, the application of Sagi would not arrive at the presently claimed process.

Specifically, Sagi discloses a three-step process of producing a hard butter composition.

In the first step of Sagi, a source fat is hydrolyzed to produce the ethyl ester of the fatty acids (see column 4, lines 1-10 of Sagi). In this step, fatty acids present in the source fat are converted into the corresponding esters by conventional esterification of the fatty acids with monovalent alcohol (see column 4, lines 10-13 of Sagi). If so desired, before carrying out the reaction to produce the ethyl ester, the fat may be hydrogenated. The first step is also illustrated in the examples in column 5 and 6 where a monoester of the desired fatty acids is produced by first subjecting suitable starting fats to a hydrogenation, followed by subjecting the resulting hydrogenated fat to a hydrolysis reaction. See Example 1 at column 5 where high erucic acid rapeseed oil and low erucic acid rapeseed oil were mixed, hydrogenated, hydrolyzed and esterified to obtain the ethyl ester of fatty acids.

In the second step of Sagi, the obtained ethyl esters of fatty acids are mixed with a fat or oil rich in unsaturated fatty acid residues in β positions (for example high oleic acid sunflower oil) and subjected to transesterification. It is disclosed in column 4 of Sagi that these esters are inserted into the α and α' positions of the fat which is rich in unsaturated fatty acid residues in the β positions (see column 4, lines 13-15). Examples of fats rich in unsaturated fatty

acid residues in the β positions include oleic safflower oil, camellia oil, palm oil, rapeseed oil, shea fat, sal fat, mango fat, kokum butter, borneo tallow, Malabar fat or their fractionaed oil. To achieve this, use is made of a known selective transesterification (see column 4, lines 18-20). An example of a second step is disclosed in example 3 (see column 7) of Sagi where it is explained that ethyl esters of the desired fatty acids were mixed with high oleic sunflower oil and the mixture was subjected to transesterification. According to example 4 (see column 7), the desired types of fatty acid ethyl esters were mixed with high oleic sunflower oil, and the mixture was transesterified.

In the third step, the resulting oil is fractionated to remove high melting point and/or low melting point fractions, and is mixed with a further fat to form the hard butter composition. See column 4, lines 19-21 and lines 28-33; and example 4 at column 7.

In summary, Sagi discloses a method for producing a hard butter composition according to which (1) in a first step mono esters of the desired fatty acids are produced from a source fat or oil; (2) in a second step the thus obtained fatty esters are contacted with another fat and subjected to a selective transesterification according to selectively introduce the desired fatty acids in the α and α' positions of the fat; and (3) in a third step the resulting oil is fractionated and the fat thus obtained is mixed with other fat.

In contrast, the present invention relates to a process in which a fat which contains an interesterified fat, is subjected to hydrogenation. Since the fat obtained with the process of this invention contains large amounts of asymmetrical triglycerides, as this is characteristic for interesterified fats, the resulting fat composition is a non-tempering fat because these asymmetrical triglycerides stabilize in beta prime crystalline form and they do not need tempering.

Further, applicants submit that even assuming that the process disclosed in Sagi would use the same starting material as the present invention, altering the order of the Sagi process would lead to a process in which an interesterified fat is subjected to hydrolysis to release fatty acid esters; then the obtained fatty acid esters subjected to hydrogenation would produce monoesters of fatty acids, whereas the present invention relates to a process for the production of a triglyceride. In view of the above remarks, it is clear that the present claimed process is materially different from that disclosed in Sagi, and thus applicants submit that there is no teaching or suggestion in Sagi to the presently claimed process.

In view of the above remarks, applicants submit that the instant rejection has been obviated, and withdrawal of the same is respectfully requested.

Further, Claims 18-24 stand rejected under 35 U.S.C. 103(a) as allegedly unpatentable over WO 94/16572 to Lansbergen et al. ("Lansbergen") as further evidenced by Goh et al., "Determination of Mono- and Diglycerides in Palm Oil, Olein and Stearin", JAOCS, v. 62, No. 4, 1985, pp 730-734 ("Goh"), and Firestone, "Physical and Chemical Characteristics of Oils, Fats, and Waxes" ("Firestone").

Specifically, the Official Action contends that Lansbergen discloses natural puff pastry margarines, and that fat in the margarine is made from a blend of palm oil stearin, palm oil mid fraction and palm oil (see page 2, line 20 to page 3, line 8; and claim 1 at page 9 of Lansbergen). In this regard, the Examiner alleges that the triglyceride properties of the fat blend appear to fall within the range of the requirements of present Claim 1. The Official Action further avers that the melting properties of the fat blends were measured, as shown in Table 1 on page 6 of Lansbergen, to have the properties required in present Claim 18 (i.e., SFC at 20°C of at least 35wt%). Moreover, the Official Action contends that, although the diglyceride content of

the composition is not mentioned in Lansbergen, the Official Action relies upon Goh for its assertion that palm oil, palm stearin and palm olein contain diglyceride. Further, the Official Action asserts that although the method by which the product is made is different from that recited in the present claims, the present claims are composition claims, so the fact that a product may have been made by a different process is not seen to carry any patentable weight. In this regard, the Official action asserts that the Lansbergen product appears to contain all of the required characteristics of the presently claimed product.

In response, applicants submit that the presently claimed fat composition is non-obvious over the applied reference.

Specifically, first, applicants submit that a person skilled in the art would not have motivation or reason to look at the applied references in the first place because Lansbergen is related to puff-pastry margarines, which is a totally different type of fat from a confectionery fat which is how the presently claimed composition is used . See the abstract of Lansbergen and the abstract of the instant specification.

Second, in reaching the conclusion that the distribution of triglyceride in the fat disclosed in Lansbergen (see page 2, line 20 to page 3, line 1) falls within that of the presently claimed fat composition applicants submit that the Examiner incorrectly relied on the distribution of triglycerides in the starting fat composition of the presently claimed process (see pending Claim 1) . Specifically, the distribution of triglyceride disclosed in Lansbergen is the distribution of triglyceride of the final product. In contrast, the distribution of triglyceride as recited in present Claim 1 represents the distribution of triglyceride in a fat component of a starting composition which is subjected to hydrogenation, and after hydrogenation, the distribution of triglyceride in the final product will be different from that of the starting composition. Thus,

contrary to the allegations in the Official Action, the product of the present invention is not the same as that in Lansbergen.

Third, the fat composition disclosed in Lansbergen is rich in symmetrical triglycerides of the SUS type because this is inherent in the nature of the fats present therein, in particular palm oil and palm oil stearin and palm oil mid fraction (PMF), whereas the presently claimed fat composition contains interesterified fat, which contains large amounts of asymmetrical triglycerides of the SSU type.

Therefore, the product of the present invention is not only different from the product disclosed in Lansbergen, but also it not suggested by the product disclosed in Lansbergen.

Since the secondary references are cited to show inherent characteristics of the product of Lansbergen, they do not add or address the deficiencies of Lansbergen as discussed above, Applicants respectfully submit that the presently claimed fat composition is non-obvious over the applied references. Thus, the instant rejection has been obviated, and withdrawal of the same is respectfully requested.

Further, Claims 1-3, 4, 6-11, 14-15 and 17 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over US Patent No. 4,702,928 to Wieske et al. ("Wieske") as further evidenced by Goh and Firestone. Specifically, the Official Action contends that Wieske teaches a process identical to present Claim 1 except for the diglyceride content of the starting fat composition. In this regard, the Official Action makes the following observation regarding the teaching of Wieske:

> Wieske discloses fat blends for margarine. In example V a fat blend is made from three fats. Fat 1 is an interesterified mixture of sunflower oil and palm oil, which is subsequently hydrogenated. Fat 2 is palm olein, which is known in the art to be a fractionated fat. Fat 3 is randomly interesterified palm oil and soybean oil. The

> combination has the triglyceride assortment of present Claim 1 (see column 6, lines 30-33). Margarine is made with this fat blend. Example VII shows a margarine formulation.

The Official Action then contends that the diglyceride content of the starting fat composition is present in palm oil. It concludes that it would have been obvious to one of ordinary skill in the art to expect the fat blend of Wieske to contain at least 1% diglyceride because of the palm oil in the blend. With respect to the limitation of the second fat having a C-12 fatty acid content of less than 5 wt.%, which is recited in a dependent claim, the Official action asserts that the evidence for the low levels of C-12 in palm and sunflower oils is provided by Firestone.

In response, applicants submit that Claims 1-3, 4, 6-11, 14-15 and 17 are not rendered obvious by the teachings in the applied references.

Specifically, the presently claimed process is directed to process where a starting fat composition, which comprises a blend of fats, including an interesterified fat, is subjected to catalytic hydrogenation. Therefore, that it is clear that it is the whole fat blend, rather than only the individual interesterified fat, that is subjected to hydrogenation. In contrast, the fat blend disclosed in example V of Wieske is a mixture of three fats, but only the first fat is interesterified and hydrogenated whereas the second and third fat are not (see column 6, lines 18 – 28). Wieske does not teach, disclose or suggest a process wherein the entire fat.

Further, applicants submit that Examiner is incorrectly relying on the distribution of triglyceride in the starting fat composition of the presently claimed process (see pending Claim 1) in reaching the conclusion that the distribution of triglyceride in the fat disclosed in Wieske (see column 6, lines 30-33) falls within that of the presently claimed. Specifically, the distribution of triglycerides disclosed in Wieske is the distribution of triglycerides of the final

product. In contrast, the distribution of triglycerides, as recited in present Claim 1, represents the distribution of triglycerides in a fat component of the starting composition which is subjected to hydrogenation, and after hydrogenation, the distribution of triglycerides in the final product will be different from that of the starting composition. Therefore, the distribution of triglyceride disclosed in Wieske is of no relevance to the present invention, as claimed, and reliance on it in imposing the instant rejection is certainly inappropriate.

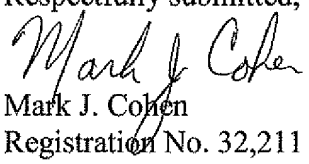
Further, Wieske discloses that a fat which is a mixture of 70 % of sunflower oil and 30 % of palm oil is the product subjected to interesterification (see column 6, lines 19-21). Such a fat will contain 23.2 wt. % of saturated fatty acids and 76.8 wt. % of unsaturated fatty acids. Random interesterification will result in a fat which contains 12.4 wt. % of S2U triglycerides, which is clearly below the limit of 20 wt. % of S_2U as recited in the present Claim 1. Therefore, the staring fat composition before hydrogenation as disclosed in Wieske is different from that of the present invention.

The secondary reference to Goh is cited to show palm oil and palm olein contain diglyceride. Firestone was cited to show low levels of C12 in palm and safflower oils. Thus, they are cited to show characteristics of particular fats and do not relate to process steps or parameters.

Since the secondary references do not overcome the deficiencies of Wieske with respect to the process described therein as, the combination of the applied references do not teach, disclose or suggest the process recited in the rejected claims. Applicants respectfully submit that the presently claimed process is non-obvious over the applied references. As such, applicants submit that the instant rejection has been obviated, and withdrawal of the same is respectfully requested.

In view of the foregoing amendments and remarks, it is firmly believed that the subject application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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